

DOCUMENT RESUME

ED 196 274

FL 012 020

AUTHOR Meara, Paul
TITLE Learners' Word Associations in French.
INSTITUTION Utrecht State Univ., The Netherlands.
PUB DATE 78
NOTE 21p.
JOURNAL CIT Interlanguage Studies Bulletin-Utrecht; v3 n2
p192-211 Fall 1978

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Association (Psychology); *Cognitive Processes;
*French: Language Research; Native Speakers;
Phonology; Psycholinguistics; Second Language
Learning; Semantics

ABSTRACT

A word association test was given in French to 76 girls learning French to determine whether their responses matched those given by native speakers. Three types of responses are possible in such a test: syntagmatic, where one word cues another that usually occurs with it ("bread" elicits "butter"); paradigmatic, which is of the same form class as the cue word but differs in one semantic factor ("man" elicits "woman"); and "clang-associates," commonly given by children, where the response is heavily influenced by the phonetic shape of the cue word ("light" elicits "bite"). Primary responses (those given most frequently) were divided into three categories: (1) those which matched the French responses; (2) those which matched but appeared to be translations of English responses; and (3) totally un-French responses, made up largely of clang-associates, into which the majority of learners' responses fell. Secondary and tertiary responses were also made up largely of clang associates. Two possible attitudes toward these results can be taken: either the discrepancies reflect serious inadequacies in the learners' grasp of French, or the discrepancies are not important, and will diminish as experience with the language increases. More information about language instruction is needed to determine which attitude is correct. (PJM)

* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *

P. Meara

TO THE EDUCATIONAL RESOURCES
INFORMATION CENTER (ERIC)."

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY.

Learners' Word Associations in French.

Paul Meara

Language Research Centre
Birkbeck College
London University

A word Association Test consists of a list of words which are presented one at a time. For each word in the list you have to write down or say aloud the first word that comes to your mind. For many people, tests of this sort are closely associated with Psychoanalysis, and a popular image of them is that they are a key to our subconscious and innermost selves. Word associations are indeed used in psychoanalysis, and in a number of other clinical situations, but there is also a long and respectable history attached to the study of the word associations produced by people who are not disturbed in any way. In contrast with the popular image, the word associations of normal adults are very unrevealing about their subconscious selves, and they show a surprisingly high degree of unoriginality.

Table 1 below contains a list of 10 common words taken from one of the standard word association tests, the Kent-Rosanoff list. Read through the list quickly, and for each word write down the first word that comes to mind. When you have done this, check your answers against table 2.

Table 1:

1: TABLE	_____	2: MAN	_____
3: SOFT	_____	4: BLACK	_____
5: HAND	_____	6: SHORT	_____
7: SLOW	_____	8: NEEDLE	_____
9: BREAD	_____	10: BITTER	_____

Table 2:
Commonest responses to words in table 1:

1: table	chair	cloth	talk	desk
2: man	woman	dog	boy	child
3: soft	hard	cushion	light	bed
4: black	white	night	cat	dark
5: hand	foot	finger	glove	arm

The Interlanguage Studies Bulletin - Utrecht, Vol. 3, No 2
Autumn 1978.

ED196274

FL012030

table 2 ctd.

6: short	long	tall	fat	small
7: slow	fast	quick	train	snail
8: needle	thread	cotton	pin	eye
9: bread	butter	jam	cheese	food
10: bitter	sweet	lemon	beer	sour

Table 2 lists the most common responses to the words in table 1, and you should find that most of your responses are to be found there. For common words such as these, the associations that normal people make are in fact very predictable. Given TABLE, for example, 78% respond with chair; given MAN, 78% respond with woman; BLACK produces white 70% of the time; BREAD gives butter 56% of the time, and so on.

Normal adults produce two main types of association, called syntagmatic and paradigmatic associations. Syntagmatic associations are associations that complete a phrase (syntagm) and some typical responses of this sort are shown below:

BRUSH	teeth
HOLD	hands
BLACK	mark
BANK	robber

The Paradigmatic associations are ones in which the stimulus word and the response that it evokes both belong to the same part of speech, nouns evoking nouns, verbs evoking verbs, and so on. In these cases, the two words both share a large part of their meaning, and stimulus and response can usually occur in the majority of contexts where the other appears. Typical paradigmatic responses are:

MAN	woman	(meaning identical except for sex)
BOY	girl	(meaning identical except for sex)
FATHER	son	(different views of same relationship)
HOT	cold	(polar opposite adjectives)
TREE	bush	(both plants of a woody kind)

An association such as MAN snail would technically be classed as a paradigmatic one, but responses of this sort, where the two words are not related semantically, are rather uncommon.

Normal adults tend to produce more paradigmatic responses than syntagmatic ones, provided the stimulus words are reasonably common. Less frequent words, which tend to occur in more constrained contexts, are more likely to produce syntagmatic responses. Children under seven years of age have a strong tendency to produce syntagmatic responses as a first preference to any word. They also tend to produce a large number of "clang associates" - associations where the response is heavily influenced by the form of the stimulus word rather than

its meaning. Some examples of clang responses are given below:

LIGHT	bite	(rhyming response)
HUM	him	(consonants unchanged)
LATE	light	(assonance)
GO	goat	(initial vowel-consonant unchanged)

Responses of this last type are rare in normal adults, though they frequently occur in some types of mental illness, and under the influence of drugs.

The associations reported in this paper are those of 76 girls learning French in two London Comprehensive Schools. All the girls were preparing for the O-level examination in French, and were tested at the beginning of their final year of study. The girls were each given a list of 100 French words and asked to write down beside each one the first French word that it made them think of. The words were a translation of the standard Kent-Rosanoff list. (Rosenzweig's 1957 translation). This list is made up of high frequency words which students at this level would be expected to know. All but seven of the words are contained in either the premier or the deuxième degré of the français fondamental (Gougenhelm et al 1956). The complete list will be found in the tables that follow.

There are a number of reasons why it is interesting to look at the word association patterns of a group of students who are moderately proficient in a foreign language, but who have not yet achieved any real degree of fluency. Firstly, most of the recent work on the psychology of Foreign Language Learning has concentrated on syntactic aspects of acquiring a new language. Hardly anyone has looked at what happens to foreign language words in the early stages of their acquisition, although learners themselves often identify vocabulary as a major problem area. It seems important that this neglect should not be allowed to continue. Secondly, the work on syntactic aspects of foreign language acquisition has suggested that there are a number of interesting parallels between learners and children acquiring their first language. It would be interesting to know whether these parallels also extend to vocabulary, and in particular, it would be interesting to know whether there is any tendency for learners to produce the syntagmatic responses and clang associates that are characteristic of young children, or whether they produce typically adult responses from very early in the learning process. Thirdly, there is the problem of how foreign words are stored in the learner's mental lexicon. Are they organized into semantic networks that are quite separate from his native language lexicon, or does the learner merely tag his French words onto their native language equivalents? If the latter were the case, one would expect to find that a large proportion of the associations produced by

learners were merely translations of the normal English responses to the equivalent English stimulus word. If the learners were building independent lexicons for the two languages, one would expect to find systematic differences between learners responses in English and French.

The word associations produced by native French speakers are broadly comparable with those of native English speakers. Both groups produce a high proportion of paradigmatic responses, and in many cases, the most common responses are very similar in both languages. In other cases, either for cultural reasons, or because there is a mismatch between the French and English lexicons, the principal responses in the two languages are quite different. Some examples are given in table 3 below.

Table 3:

Table three show the most common responses in English and French to ten words from the Kent-Rosarioff list.

DEEP	shallow	sea	water
PROFOND	creux	mer	puits
MOUNTAIN	hill	valley	snow
MONTAGNE	neige	plaine	mer
HOUSE	home	garden	door
MAISON	toit	foyer	porte
BUTTERFLY	moth	wing	net
PAPILLON	fleur	aile	couleur
SWEET	sour	sugar	bitter
DOUX	dur	mou	agréable
EARTH	soil	sky	ground
TERRE	mer	ciel	ronde
SOLDIER	sailor	army	uniform
SOLDAT	guerre	plomb	armée
STOMACH	food	ache	pain
ESTOMAC	digestion	ventre	faim
YELLOW	blue	red	green
JAUNE	vert	citron	serin
BREAD	butter	jam	cheese
FAIN	vin	blanc	manger
HEALTH	sickness	wealth	happiness
SANTE	maladie	fragile	bonne
MEMORY	mind	thought	forgetfulness
MEMOIRE	souvenir	intelligence	leçon

The results of this study will be found in table 4. This table contains the three most frequent responses produced by the learner group. (These are known respectively as the primary, secondary and tertiary responses): Table 4 also reports the number of students contributing to each response, and the French primary response for each stimulus word.

Table 4:

Table 4 lists each of the stimulus words (col 1), the most common native speaker response (col 2) and the three most frequent responses produced by the learner group (cols 3-5). Numbers after these columns indicate the number of students contributing to each of the responses. The final column gives the number of different responses produced by the learner group. Symbols preceding the learner responses are explained in the text.

1	table	=chaise	53	/tableau	7	:manger	2	12
2	sombre	clair	11	:noir	4	/heureuse	2	40
3	musique	note	11	:violin	6	/chanson	6	23
4	maladie	lit	9	/musique	9	/tête	4	29
5	homme	femme	37	/garçon	8	/dame	7	8
6	profond	puits	6	/prendre	3	/professeur	3	50
7	mou	dur	13	/vache	5	:chat	4	34
8	manger	boire	28	:pain	5	/pomme	4	31
9	montagne	neige	8	/campagne	5	/lac	3	47
10	maison	toit	13	/appartement	12	:famille	5	25
11	noir	blanc	53	/soir	4	:rouge	2	13
12	agneau	doux	7	/mal	3	/oiseau	3	48
13	confort	fauteuil	6	:table	4	/maison	2	41
14	main	pied	19	:doigt	7	:bras	6	23
15	petit	grand	68	/large	4	/petite	1	4
16	fruit	pomme	31	:orange	14	:legume	6	14
17	papillon	fleur	7	:oiseau	6	/papiers	4	40
18	lisse	rugueux	10	/lire	8	/lit	4	35
19	ordre	désordre	7	/menu	3	/garçon	3	44
20	chaise	table	55	:assise	2	/chat	1	19

table 4 ctd.

21 doux	dur	/deux	14	/trois	13	/un	7	23
22 siffler	train	/soufflé	9	:agent	3	/gâteau	3	46
23 femme	homme	=homme	42	/mari	5	:fille	4	10
24 froid	chaud	=chaud	56	/beau	9	:hiver	4	17
25 lent	rapide	:vite	10	/lentement	5	/noël	5	44
26 désirer	vouloir	=vouloir	15	:aimer	5	:avoir	3	44
27 rivière	fleuve	:mer	10	:eau	10	/bateau	9	30
28 blanc	noir	=noir	55	:neige	4	:bleu	2	13
29 beau	joli	/belle	15	/froid	9	/mal	5	34
30 fenêtre	rideau	:porte	31	:maison	7	/ouvrir	5	25
31 riveaux	lisse	/rouge	16	/football	3	/rideaux	2	39
32 citoyen	vote	/auto	12	/voiture	11	:ville	5	29
33 pied	chaussure	:main	20	:jambe	12	/tête	4	21
34 araignée	toile	/arranger	5	/argent	2	/désordre	2	50
35 aiguille	fil	/train	2	/malade	2	/maison	2	52
36 rouge	noir	:bleu	14	:blanc	9	:noir	7	20
37 sommeil	lit	/soleil	15	:lit	5	:dormir	3	33
38 colère	rouge	/bleu	7	/couleur	4	/blouse	4	41
39 tapis	meubleux	/eau	5	porte	4	/pied	3	51
40 fille	garçon	=garçon	28	:fils	22	/fil	6	13
41 haut	bas	:montagne	4	/couture	3	/voix	3	44
42 travail	repos	/école	11	/rester	6	/autobus	5	24
43 aigre	doux	/tigre	6	/agré	4	aiguille	3	46
44 terre	mer	:ciel	15	pomme de terre	11	/pomme	9	26
45 difficulté	facilité	:facile	18	/simple	13	/français	5	24
46 soldat	guerre	=guerre	6	:homme	4	:armée	4	44
47 chou	fleur	/chat	5	/chien	4	:fleur	3	36
48 dur	mou	/sur	4	:facile	4	/pendant	3	36
49 aigle	oiseau	=oiseau	12	/église	6	/aigre	2	41
50 estomac	digestion	:manger	4	/malade	3	/tabac	3	47
51 tige	fleur	:tigre	16	:lion	15	/animal	4	30
52 lampe	lumière	/lit	9	/table	8	/soleil	5	27

table 4 ctd.

53 rêve	sommeil	:dormir	9	/lève	8	:lit	5	40
54 jaune	vert	:vieux	14	:vert	7	:rouge	5	26
55 pain	vin	:beurre	26	:manger	4	:couteau	3	25
56 justice	balance	/police	7	/agent	6	/court	5	40
57 garçon	filie	=filie	37	:homme	8	:café	3	24
58 clair	obscur	:lune	19	/gateaux	5	:noir	5	33
59 santé	maladie	/noël	11	:malade	2	/église	2	43
60 évangile	bible	:église	11	:religion	4	/ange	2	42
61 mémoire	souvenir	/tête	13	:livre	4	/enfant	3	42
62 mouton	doux	/vache	10	/agneau	6	/viande	4	37
63 bain	mer	:salle de	13	/pain	7	:eau	6	31
		bain						
64 villa	mer	:maison	48	/ville	4	/village	3	15
65 rapide	train	:vite	29	/eau	7	/rivière	6	18
66 bleu	mer	:rouge	19	:ciel	17	:blanc	10	16
67 faim	soif	:manger	20	:soif	7	/femme	4	26
68 prêtre	noir	/prendre	18	/fenêtre	3	/petit	3	35
69 océan	mer	=mer	23	:eau	9	:atlantique	7	14
70 tête	cheveux	:yeux	10	:cheveux	9	:pied	8	20
71 fourneau	cuisine	/fourneau	3	/couteau	3	:chaud	3	44
72 long	court	:petit	18	/grand	8	:court	6	22
73 religion	église	=église	24	:catholique	14	:dieu	4	21
74 cognac	alcool	:boire	17	:vin	13	/boit	4	24
75 enfant	petit	:bébé	21	:petit	12	:école	7	25
76 amer	doux	/aimer	13	/mer	8	/amie	5	34
77 marteau	pilon	/manteau	3	/boire	3	/mouton	3	45
78 soif	faim	=faim	11	/soir	6	:eau	6	33
79 ville	Paris	:maison	21	:village	20	:Paris	3	25
80 carré	rond	/voiture	10	/porter	6	/roue	2	39
81 beurre	jaune	:pain	44	/vin	4	/jeune	2	20
82 docteur	maladie	:hôpital	19	:malade	13	/patient	4	19
83 bruyant	enfant	/brille	6	/noir	2	/acheter	2	32

table 4 ctd.

84 voleur	bicyclette	: cambrioleur	5	/voiture	4	/maison	4	54
85 lion	crinière	: tigre	32	: animal	8	/tigre	5	19
86 joie	tristesse	/joli	17	/jouer	8	: heureux	4	24
87 lit	repos	: dormir	17	/lampe	10	/lire	5	28
88 lourd	léger	/silence	4	/France	4	/sac	3	44
89 tabac	fumée	: pipe	9	: cigarette	9	: fumer	7	25
90 bébé	rose	: enfant	33	: petit	8	: mère	4	25
91 lune	nuît	: clair	13	: soleil	8	: ciel	5	24
92 ciseaux	couper	/cheveux	7	: couper	6	: couteaux	5	42
93 tranquille	calme	: silence	6	: calme	4	/bruit	4	48
94 vert	pré	: bleu	15	: herbe	10	: jaune	9	16
95 sel	mer	/acheter	6	: poudre	5	/vendre	3	42
96 rue	maison	= maison	13	: voiture	7	/automobile	5	30
97 roi	reine	= reine	13	/rue	6	/moi	3	43
98 fromage	blanc	: pain	16	: beurre	9	: lait	8	30
99 fleur	rose	: jardin	9	: rose	8	/rouge	6	26
100 effrayer	peur	: enfant*	4	/robé	3	/travaille	2	47

Notes:

The French norms are taken from Rosenzweig (1970) and are the primary responses produced by 184 female students. Rosenzweig also reports two other sets of data, responses from 104 male students and responses from 136 workmen, but the female norms seemed most appropriate for comparison with the learner group which was also composed of females. Rosenzweig's male and female students differ only rarely in their primary responses, though there are a number of differences between the student responses and those produced by the workmen.

Consider first the learner's primary responses. These fall into three main categories: Category A (marked = in table 4) comprises primary responses which are the same as the primary responses reported for native French speakers; Category B (marked : in table 4) is made up of words which are not the normal primary responses of French speakers, but which do nonetheless occur in the list of normal responses for native Francophones; Category C (marked / in table 4) are responses that are not normally made by French speakers. The number of responses in each category will be found in Table 5.

Category A, 23 cases, is basically uninteresting, in that though the learners produce the same primary response as the native speakers, these primaries are translation equivalents of the corresponding English primary. For the four cases where this is not so, the primary response is a translation equivalent of a corresponding high frequency response in English. There is no way of deciding whether the learners are producing genuine French-like responses here, or whether they are merely translating their normal English responses.

Category B, 40 cases, also appears to be largely made up of translations of English responses. Twentyfive of the learner primaries are translations of the corresponding English primaries or other very frequent responses. Of the remaining cases, six are marginal in that they are made very infrequently by native French speakers (not more than once in a sample of 150 speakers). This leaves us with only six primary responses which are genuinely French and un-English: ESTOMAC-manger, CLAIR-lune, EVANGILE-église, TETE-yeux, DOCTEUR-hôpital, and EFFRAYER-enfant.

The third category, totally unFrench associations, is surprisingly large. Eighteen of the thirty-seven cases can be classified as clang associates, relying heavily on the form of the word, and ignoring its meaning completely. The second largest sub-category consists of associations which are quite reasonable, which just do not figure in the French norms. There is also a third set which arises as a result of the stimulus word being misunderstood. JAUNE-vieux and CITOYEN-auto are fairly simple cases of this but SANTE-noël and SEL-acheter and MOU-vache are rather more serious. What seems to be happening here is that the learners are interpreting the words in terms of a suitable English sounding word rather than to the French stimulus. The final type of unFrench association is where the stimulus word is used as a base to form a lexically related word. There were three examples of this type: CONFORT-confortable, BEAU-belle and MALADIE-malade.

For the secondary and tertiary responses, the number of unFrench responses is considerably higher, 54% and 60% respectively. Here again there are a number of clang responses,

and several examples of misunderstandings of the SEL-vendre type.

Table 5:
Distribution of the learner's primary, secondary and tertiary responses.

- = learners' primary response is same as French primary
- : learners' response appears in the native speaker norms
- / learners' response is never made by native speakers

Category	=	:	/
Primary	23	40	37
Secondary		46	54
Tertiary		40	60

The fact that this discussion has been limited to the three most frequent responses may make these typically unFrench responses seem less important than they really are. These three responses account for only 33% of the total number of responses made by the learners, and unFrench responses are much more frequent among the less common responses. To illustrate this point, table 6 contains the whole range of responses produced to three of the stimulus words. In this table 'French response' includes any word that appears in Rosenzweig's norms, even words occurring only once in his sample of 378. Even with a criterion as lenient as this, it is clear that only a fraction of the responses produced by learners can be classified as French-like associations. Table 6 also contains the whole range of native speaker responses for comparison.

Table 6a: Complete responses to PAIN

Learner responses (French responses preceded by §)		
§beurre	28	
§manger	4	
§couteau	3	
§gâteau	3	
§fromage	2	
§eau	2	
§lait	2	
dolgt	2	
malade	2	
21 other responses f=1		
français, provisions, mal de mer,		
§ grillé, confort, margarine, docteur,		
§ lutes, être, anxious, guerre, toucher,		
baguette, yeux pense, berre, porter,		
pape, bière, bain, cou;		
3 students claimed not to understand		
the stimulus word. They produced:		
merci	1	illegible 2
animaux	1	no response 2
tabac	1	

table 6a ctd, Native Speaker Responses

No	Response	Total	Female	Male
1	vin (et vin)	30	18	12
2	blanc	19	13	6
3	manger	19	12	7
4	faim	16	11	5
5	mie (de mie)	14	8	6
6	dur	13	9	4
7	nourriture	12	7	5
8	sec	11	8	3
9	bis	9	4	5
10	quotidien	8	5	3
11	boulangier	7	4	3
12	seurre	6	5	1
13	bié	5	4	1
14	farine	5	4	1
15	amour	4	1	3
16	bon	4	3	1
17	fraîs	4	1	3
18	noir	4	2	2
19	aliment	3	2	1
20	miche	3	2	1
21	sel	3	2	1
22	vlande	3	2	1
23	boulangerie	2	1	1
24	brûlé	2	2	0
25	couteau	2	2	0
26	croissant	2	2	0
27	croûte	2	0	2
28	cuisine	2	2	0
29	épice (épices)	2	2	0
30	lait	2	2	0
31	main	2	1	1
32	pauvre	2	2	0
33	ropas	2	2	0
34	sucré	2	1	1
35	table	2	2	0
36	travail	2	2	0
37	vie	2	2	0
38-95. (f=1)		56	32	24

"...Amour et Fantaisie", "...Amour et Jalousie",
 appétit, beau, besoin, brioché, céleste, chaud,
 chocolat, Christ, cidre, corbeille, à couper,
 craque, déjeuner, Dieu, doré, drôle, eau, fantaisie,
 film, flûte, four, fromage, gâteau, gourmand,
 goûter, grillé, grossir, guerre, habitude, homme,
 justice, labeur, long, mâcher, miettes, moralité,
 nécessaire, nécessité, odeur, pain bis, pamplemousse, planche,
 prison, rassis, régime, rions, sandwich, saveur, seigle, sueur,
 tartine, tendre, trou, vivant

Table 6b: Complete responses to LONG

Learner responses

(French responses indicated by §)

§petit(e)	18
§grand(e)	9
§court	6
§liste	3
temp	2
temps	2
longtemps	2
cours	2

19 other responses f=1

§cheveux, cour, cheveau, § vite, §loin,
 §corde, pont, § kilomètre, vide, règle,
 lasse, llon, tard, jambes, giraffe,
 chanson, longleterre, lettre, Angleterre

3 students claimed not to understand the stimulus word.
 They produced:

pantalons	1
vautour	1
short	1
illegible	1
no response	6

Table 5b ctd.

Native speaker responses

No.	Response	Total	Female	Male
1	court	65	37	28
2	large	34	20	14
3	route	10	6	4
4	chemin	9	5	4
5	mince	9	8	1
6	jour (jours)	8	5	3
7	bâton	6	6	0
8	grand	6	5	1
9	pain	6	3	3
10	maigre	5	4	1
11	petit	5	2	3
12	serpent	5	4	1
13	étroit	4	0	4
14	till	4	3	1
15	infini	4	4	0
16	jambe	4	3	1
17	nez	4	4	0
18	courrier	3	0	3
19	ligne	3	2	1
20	règle	3	2	1
21	tige	3	2	1
22	arbre	2	2	0
23	bras	2	2	0
24	cheveux	2	2	0
25	cou (cous)	2	1	1
26	fatigue	2	2	0
27	lent	2	2	0
28	mètre	2	1	1
29	rifle	2	0	2
30	ruban	2	2	0
31	train	2	1	1
32	trajet	2	1	1
33	ver	2	1	1
34-97 (f=1)		64	42	22

adjectif, allongé, asperge, attente, bannette, barbe, bête, bois, bond, bref, Chine, corde, coloir, cour, couteau, crayon, discours, Don Quichotte, ennui, ennuyeux, espace, étang, étendu, fatiguant, girafe, gouttière, haut, héron, l'hiver, horizon, immense, immensité, indéfini, Island, jour sans pain, jumeau, kilomètre, loin, longévité, longitudinal, long way, main, mariage, Mississipi, mi, mur, ovale, patiente, patte, pin, plaisir, pluie, pointe, rail, rigide, rude, rye, scieur, temps, trait, triste, turban, tuyau, vite

Table 6c: Complete responses to MEMOIRE.

Learner responses
(French responses indicated by §)

tête	13
§ livre	4
enfant	3
diaric	2
oublier	2
§ mort	2
maison	2

38 other responses f=1

nistory, § histoire, italie, vert, ille,
école, remembre, jaune, morder, almer,
pense, bord, fleurs, § vacances, pape, cahier,
nouveau, lettre, naitre, matin, monton, moment,
belle, grandparents, mal, libre, prendre,
manger, monsieur, devenir, renoir, demain,
pleut, mourir, non, conservatoire, se lève

3 student claimed not to understand the stimulus word.
They produced:

rêver	1
récolation	1
fiile	1
illegible	0
no response	6

Table 6c ctd

Native speaker responses				
No.	Response	Total	Female	Male
1	souvenir (souvenirs)	50	29	21
2	intelligence	19	10	9
3	leçon	7	5	2
4	livre	6	6	0
5	oubli	6	1	5
6	fidèle	5	3	2
7	mot (mots)	5	3	2
8	travail	5	2	3
9	cerveau	4	3	1
10	facilité	4	1	3
11	habitude	4	1	3
12	homme	4	2	2
13	Bergson	3	2	1
14	bonne	3	2	1
15	chance	3	1	2
16	courte	3	0	3
17	faculté	3	2	1
18	faible	3	2	1
19	passé	3	2	1
20	savoir	3	2	1
21	trou	3	3	0
22	visuelle	3	2	1
23	affective	2	2	0
24	amnésie	2	0	2
25	d'un âne	2	2	0
26	apprendre	2	2	0
27	association	2	0	2
28	Chateaubriand	2	1	1
29	déficience	2	1	1
30	effort	2	2	0
31	géographie	2	0	2
32	histoire	2	2	0
33	idée	2	1	1
34	intellectuel (intellectuelle)	2	1	1
35	maladie (maladies)	2	2	0
36	mauvaise	2	1	1
37	mort	2	1	1
38	outre-tombe (d'outre-tombe)	2	1	1
39	pensée	2	1	1
40	psychologie	2	1	1
41	rappeler	2	1	1
42	santé	2	2	0
43	test (tests)	2	1	1
44-140 (f=1) (see next page)		97	75	22

Table 6c ctd.

abstrait, absurde, analyse, ancien, d'ange, alphabet, appétit, apprentissage, atomisme, attention, aucune, bêtise, blanc, cervelle, cheval, par cœur, compliquée, conscience, couloir, cours, défaillance, défaut, détectueuse, différente, difficile, difficulté, distraction, document, durée, écrit, ennui, énorme, épreuve, esprit, étude, examen, fable, fatigue, foi, folie, force, fuite, de Gaulle, grenier, grimoire, gros livre, imagination, instinct, jeunesse, journal, lecture, lente, localisation, lyre, machine, de médecin, mémoire, mémorisation, mère, mnémonte, moyen, noms propres, pas, passable, pathologique, penser, peu, physique, philo, Piéron, poésie, poisson, précise, qualité, Rabelais, rappel, se rappeler, rapidité, récitation, réponse, réserve, rétention, T. Ribot, Ségur, sensibilité, Mme de Sévigné, simple, sonnet, table de multiplication, tombe, trac, trouver, utile, vacances, vacillantes, volonté

These three sets of responses are fairly typical of the complete responses to the 100 words. With less frequent words such as LISSE or RUGUEUX, the number of non-responders and those who claim not to know the stimulus word rises. In the case of very frequent words such as HOMME or BLANC, the number of individual responses is lower, and the number of respondents contributing to the most frequent responses is rather higher than in these examples. The data in figure 6 is untypical in that there are few examples of clang associates. This is probably due to the fact that two of the stimulus words are close cognates of English words. Clang associates are particularly common with less common French stimuli.

Other points worth noting are the complete absence of some very frequent responses made by native speakers from the learners' data, and the very small number of syntagmatic responses. MEMOIRE gives rise to no syntagmatic responses, although there are a number of examples of this type in the native speaker responses. LONG produces mainly paradigmatic responses. PAIN produces a number of syntagmatic responses, beurre, œuf, fromage, which are phrases, but only two examples of genuine syntagmas, manger and grillé. There is no evidence in the data as a whole that the learners produce syntagmatic responses in any systematic way.

There are two possible attitudes that we can take towards the data presented above.

The first is to take the very obvious discrepancies between the association patterns of learners and native speakers as indicative of serious inadequacies in the learner's grasp of French. Ideally, it might be argued, learners ought to aim at performing like native speakers on every language task, and this ideal applies not only to primary language activities such as listening and speaking, but also to secondary activities such as the word association task. These secondary activities are not just academic curiosities; they are a useful way of investigating the way a speaker's knowledge of his language is structured and stored. Word associations clearly tell us something about the way our mental dictionaries are organized. The data suggests that the native speaker's mental dictionary is organized mainly on semantic lines, rather more like a thesaurus than a conventional dictionary. Words of similar meaning, or words that have the same range of convenience are stored in such a way that they readily evoke each other. In the learner's case, however, this semantic organization seems to be much less well established. The learners studied here do show some evidence of semantic organization, but this is mainly dependent on translation between French and English. There also appears to be a conflicting principle of organization which makes use of the form of words rather than their meaning, and even among respondents who claimed to have understood the meaning of the stimulus word, there is a strong tendency for totally extraneous words, related to the stimulus neither in form nor meaning, to emerge as associates. This lack of a proper semantic organization for foreign language words may explain a large part of the difficulty that learners experience in processing both written and spoken foreign language material. Receptive skills rely heavily on a predictive process whereby the reader/listener anticipates what is about to appear, and checks these predictions against what does actually appear in the speech stream or text. A semantically based lexicon would obviously be effective here. It is usually possible to predict at least a part of the meaning that your interlocutor is trying to convey, even though it is not always possible to predict the exact word that he will use. If we imagine that predicting the occurrence of a particular word brings to mind not only that word, but a whole cluster of words that are closely related to it, then in a semantically organized lexicon, all the words brought to mind would be relevant to the matter in hand, and it is highly likely that one of this cluster of words would match what appeared in the utterance or text. A dictionary that was organized along non-semantic lines would be less efficient, since the cluster of words would contain a large number of items that were totally irrelevant to the message in hand. A dictionary based on formal criteria, for example, would bring to mind a whole cluster of

similar sounding words, and this would be confusing even if the predicted word was correct. In effect, a learner with such a mental dictionary would be bombarded with irrelevant messages, which would make it very difficult for him to extract the true meaning of what he is trying to understand. If this characterization of the learner's mental dictionary as lacking proper semantic organization is a true description, one implication would be that we ought to put a considerable research effort into developing learning methods which could lead learners to develop mental dictionaries that are properly structured, and as closely as possible like those of native speakers.

On the other hand, there is a second equally plausible, but quite contradictory attitude which could be taken: to claim that though there are large and obvious discrepancies between the learners and the native speakers, they are not really of any importance. It might be the case that all learners go through a phase when their foreign language lexicon is organized on non-semantic criteria, or indeed even randomly. If the lexicon was relatively small, this might not really matter, and it might be the case that given enough exposure the lexicon reorganizes itself on semantic grounds when the number of words it contains becomes large enough to make efficient organization important.

Our knowledge of how learners acquire foreign language vocabulary, and how this part of their competence is elaborated is so slight that there is not really any evidence available which could indicate which of these two attitudes is more likely to be the correct one. This rather unhappy state of affairs has three main causes.

Firstly, most of the major developments in applied linguistics in the last decade have been chiefly concerned with aspects of syntactic development. This is due to the existence of well-developed and useful models that had been worked out in the course of studies of first language acquisition in children. This work is obviously important, but it is also important to remember that syntactic problems are only part of a whole set of problems faced by learners of foreign languages. Syntax is not a serious source of difficulty for more advanced learners, and vocabulary problems are probably much more serious once the early phases of learning are past.

Secondly, where vocabulary problems have been studied, this has almost always been from the point of view of the teacher, the tester or the course writer, rather than that of the learner. West's work on the frequency of English words as a criterion for inclusion in text books (West 1953) and the work on

Français Fondamental (Gougenheim et al. 1965) are good examples of this. Such work is clearly of great value, but it leaves unasked a number of questions of a fundamental kind about the psychological aspects of acquiring foreign language vocabulary.

Thirdly, the small amount of work that has looked at learners acquiring vocabulary has usually assumed that learning a foreign word is merely a matter of being able to recognize that 'homme' means 'man'. The model that underlies this kind of thinking is an adaptation of the paired-associate idea found in psychological work on verbal learning and implies that native language words and foreign words are linked together in simple stimulus response relationships. This is an impoverished view of the complexities involved though. It assumes that vocabulary items are discrete, and ignores the networks of semantic relations that exist between words, and the fact that sets of related words in one language rarely map in any simple way onto the equivalent set in another language. More importantly, by defining the problem in terms of inter-language pairs, any comparison between what a learner does with a foreign word and what a native speaker does are explicitly ruled out of consideration.

This last point is an important one. 'Knowing a word' for a native speaker is a complex and multifaceted skill, perhaps best described in behavioural terms as the ability to react to a word in ways which are considered appropriate by the speech community. Many learners are incapable of reacting appropriately to a word, even though, technically they know its meaning and might be able to use it in a sentence. Two examples will suffice. Native speakers have little difficulty in recognizing words spoken against a background of noise, but even fluent learners are very much less tolerant of noise, and can fail to recognize words at noise levels which have no effect at all on the performance of native speakers. Native speakers can read single words exposed on a screen for as little as 50 milliseconds, but learners require much longer exposure times, even when the words used are very common ones. Being able to perceive words in noise, or read words quickly are both examples of the type of skill each native speaker is expected to have by his speech community. Both are important subcomponents of the ability to communicate. It is clearly important that learners should be trained to share these appropriate reactions, so that they can perform these tasks and others like them with something like the facility found in native speakers. The case of word associations is not so clearly important as the activities mentioned above, as there is a very wide range of tolerance found among native speakers, and since the production of word associations is not so clearly related to ordinary language activities. My own feeling, however, is that

all the various types of language activity are reflections of the same underlying, basic skills, and that if we could develop learning methods that, as a side-effect produced learners with native-like association patterns, we would also be producing learners who were better able to communicate in their foreign language.

I would like to thank M. McGarry and M. Philpot who provided the learners who did the test, and my colleagues who have discussed previous versions of this paper, especially G. Awbery.

References:

- Gougenheim G, R Michéa, P Rivenc & A Sauvageot. 1956. L'Elaboration du français élémentaire. Paris. Didier.
- Miller KM. 1970. Free association responses of English and Australian students to 100 words from the Kent-Rosanoff Word Association Test. in Postman and Keppel.
- Postman L, and G Keppel. 1970. Norms of Word Association. Academic Press.
- Rosenzweig MR. 1970. International Kent-Rosenoff word association norms emphasizing those of French male and female students and French workmen. in Postman and Keppel.
- West M. 1953. A General Service List of English Words. London. Longmans Green and Co.